Please amend claims 17-22, as reflected below:

17. The method according to Claim14, further comprises ~~the step of depositing a~~ sacrificial layer of a material on to the substrate prior to step (b).

18. The method according to Claim 14, wherein step (b) is conducted by ion beam-assisted evaporative deposition.

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19. The method according to Claim 14, wherein step (b) is conducted by sputtering.

20. The method according to Claim 18, wherein the ion beam-assisted evaporative deposition is conducted in the presence of an inert gas.

21. The method according to Claim 14, wherein the substrate is a cylindrical substrate.

22. The method according to Claim 14, wherein the substrate is a planar substrate.

Please add new claims 29-38 as follows:

Claim 29 (New) A method of manufacturing an endoluminal stent capable of radially expanding from a first diameter to a second diameter and having a plurality of first structural elements defining a longitudinal axis of the stent and a plurality of second structural elements interconnecting adjacent pairs of first structural elements and defining a circumferential axis of the stent, comprising the steps of:

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a. providing a substrate having a generally continuously curved exterior surface capable of accommodating metal deposition thereupon;
b. depositing a stent-forming metal onto the exterior surface of the substrate by vacuum deposition;
c. forming in the stent-forming metal the plurality of first structural elements and the plurality of second structural elements interconnecting adjacent pairs of first structural elements; and

d. removing the substrate from the endoluminal stent formed thereupon, thereby obtaining an endoluminal stent capable of radially expanding from a first diameter to a second diameter by geometric deformation of at least some of the plurality second structural elements.

Claim 30 (New) The method of Claim 29, wherein the vacuum deposition of step (b) further comprises sputter deposition.

Claim 31 (New) The method of Claim 29, wherein the stent-forming metal of step (b) further comprises a shape memory alloy.

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Claim 32 (New) The method of Claim 31, wherein the shape memory alloy further comprises a binary nickel-titanium alloy.

Claim 33 (New) The method of Claim 29, wherein the stent-forming metal of step (b) is selected from the group consisting of elemental titanium, vanadium, aluminum, nickel, tantalum, zirconium, chromium, silver, gold, silicon, magnesium, niobium, scandium, platinum, cobalt, palladium, manganese, molybdenum and alloys thereof, and nitinol and stainless steel.

Claim 34 (New) The method of Claim 29, wherein step (a) further comprises the step of providing a substrate having a generally cylindrical exterior surface for accommodating metal deposition thereupon.

Claim 35 (New) The method of Claim 29, wherein step (b) further comprises the step of controlling heterogeneities in the stent-forming metal during vacuum deposition.

Claim 36 (New) The method of Claim 35, wherein the step of controlling heterogeneities further comprises the step of controlling at least one of grain size, grain phase, grain material composition, stent material composition and surface topography during vacuum deposition.

Claim 37 (New) The method of Claim 35, wherein the step of controlling heterogeneities further comprises the step of defining polar and non-polar binding sites for binding blood plasma proteins.

Claim 38 (New) The method of Claim 29 wherein step (b) further comprises the step of controlling at least one of fatigue life, corrosion resistance, corrosion fatigue, inter- and intra-granular precipitates, bulk material composition, bulk and surface material